



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
ENGINEERING AND COMPLIANCE DIVISION**

Coating, Printing, Aerospace & Metal Finishing Team

PERMIT APPLICATION EVALUATION

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A/Ns 511879, 511090

Processed by: WW
Reviewed by: SMKE
Date 7/9/10

P/C for Abrasive Blasting System w/Baghouse & P/O for Oven Modification

APPLICANT: Ducommun Aerostructures, Inc.
FACILITY ID: 140811
EQUIPMENT LOCATION 801 Royal Oaks Drive, Monrovia, CA 91016
MAILING ADDRESS : 801 Royal Oaks Drive, Monrovia, CA 91016

EQUIPMENT DESCRIPTION

A/N 511089

TITLE V – De Minimis Significant Permit Revision

A/N 511090

Administrative change to permit F97056 (A/N 478401) to operate the following:

OVEN, SPRAY-TECH, MODEL NO. OVEN36108.5, 10' - 0" W. X 35' - 0" L. X 8' - 0" H., WITH A 2,700,000 BTU/HR DIRECT NATURAL GAS-FIRED MAXON CYCLOMAX BURNER, A 5 H. P. EXHAUST FAN, ~~A 10 H.P. RECIRCULATION FAN~~, TWO 7.5 H.P. RECIRCULATION FANS, AND A 2 H.P. COMBUSTION AIR BLOWER.

To correct the number and motor HP of the recirculating fans from one 10 HP fan to two 7.5 HP fans.

A/N 512075 (P/C, new construction)

ABRASIVE BLASTING SYSTEM CONSISTING OF:

- 1. ABRASIVE BLASTING CABINET, CLEMCO INDUSTRIES, MODEL BNP DOUBLE 65/220 DUAL STATION, 8'-5" L. X 3'-3" W. X 3'-7" H.*
- 2. TWO NOZZLES WITH A MAXIMUM INSIDE DIAMETER OF 5/16", MAXIMUM AIR PRESSURE OF 125 PSIG.*

CONDITIONS

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.



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3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED VALID PERMIT TO CONSTRUCT BY THE EXECUTIVE OFFICER.
4. ABRASIVE BLASTING MEDIA USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE 1, WITH AN EFFECTIVE DATE OF JUNE 5, 2009 OR EARLIER.

A/N 511879 (P/C, new construction)

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. DUST COLLECTOR, CLEMCO INDUSTRIES, MODEL ZERO RPH-2-900, WITH A CYCLONE, TWO CARTRIDGE-TYPE FILTERS, 12" DIA X 3' L. EACH, TOTAL FILTER AREA OF 470 SQ. FT., ONE 25" X 25" X 4.5" HEPA FILTER AND A REVERSE-PULSE CLEANING SYSTEM.
2. EXHAUST SYSTEM WITH A 2 H.P. BLOWER VENTING ONE ABRASIVE BLASTING CABINET.

CONDITIONS

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 1155.
4. DUST COLLECTED IN THE DUST COLLECTOR SHALL BE DISCHARGED ONLY INTO CLOSED CONTAINERS.
5. A PRESSURE GAUGE SHALL BE INSTALLED AND MAINTAINED SO AS TO INDICATE IN INCHES WATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE CARTRIDGE FILTERS.



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BACKGROUND:

Ducommun Aerostructures, Inc (DAI) is an aerospace contractor which manufactures and spray coats aerospace components and parts. A/N 511879 and 512075 were received on 6/25/10 to install a new abrasive blasting cabinet and a cartridge dust collector. DAI received a new order to clean the super thin Apache helicopter blades for Boeing. The company paid for the expedited permit processing.

A/N 511090 was received 5/2/10 to correct the number and motor HP of the recirculating fans for an oven with active permit # F97056. A Title V permit revision A/N 510080 was also submitted to include these changes.

DAI is a Title V facility. A Title V permit renewal was issued to this facility on July 28, 2008. This proposed project is a de minimis significant permit revision and the 2nd revision to the Title V permit renewal.

PROCESS DESCRIPTION:

The fiberglass composite aircraft components and parts (Apache helicopter blades) 22' L. X 1 -1/2 W. X 0.007" thick will be blasted in the abrasive blasting cabinet to clean the parts. Aluminum oxide will be used as the abrasive media. The super thin blades will be placed in the blasting cabinet. The exhaust and air from the enclosure is directed to the dust collector to control particulate emissions during the blasting process. The dust collector has a cyclone and cartridge and HEPA filters. See attached manufacturer's design and operation for more information. The cleaned parts are then shipped out to another company.

EMISSION CALCULATION:

A facility-wide VOC emission limit of 10,692 (356 lbs/day) pounds per month has been established for this location. The modification to the oven does not affect emissions. Operation of the abrasive blasting equipment generates a small amount of particulate emissions.



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Equipment Specification

Abrasive Material (Al Oxide)			
Al Oxide Density (AQMD table)		lb/cu ft	160
Sand Density (AQMD table)		lb/cu ft	99
Al Oxide Emission Factor (AQMD)		lb/lb	0.01
Nozzle Diameter		Inches	5/16
Air Pressure (AQMD Table)		Psig	125
Air Ports Dimensions (L"xH")			20" x 20"
Cabinet Dimensions (W'xL'xH')			3.25' x 8.42' x 3.58'
Exhaust Blower Flowrate		CFM	900
Or Filter Area		Sq. Ft.	470
Dust Collector Efficiency		99%	0.01
Filter Cleaning Method			Reverse Pulse Jet
Use Factor (Dry 100%)			1
<u>Assumption:</u> PM=PM10			
Sand Flowrate at 5/16, 125 psig (Table 3-4)		lb/hr	610
Operating Schedule:	Max	Avg	
hr/day	24	8	
dy/wk	7	5	
wk/mo	52	50	

1. Process Weight (PW)	
= Sand Flowrate x (Abrasive Density / Sand Density)	
PW = 986 lb/hr	
2. Max. uncontrolled PM emissions (R1)	
= PW x EF x Use Factor	
= 9.9 lb/hr	
3. Max. controlled PM emissions (R2)	
= R1 x (1 - APC Eff)	
= 0.099 lb/hr	

Summary of Emissions

	R1 lb/hr	R1 lb/dy	R2 lb/hr	R2 lb/dy	Annual lb/yr	30DA lb/dy
PM = PM10	9.9	237	0.099	2.4	861	1.7



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4. Exhaust Air Particulate Concentration (PC)
= (R2/Blower CFM) x (7,000 grain/lb/60 min/hr)
= 0.0128 grain/CFM
5. Air to Cloth (A/C)
= (Blower CFM)/filter area
= 1.9 = 2:1
6. No. of Air Changes, cabinet (AG)
= Cabinet Volume = W' x L' x H' = 3' x 3' x 9.7'
= 87.3 cu. ft.
CD = Blower CFM/Area
= 10.3 fpm

Abrasive Blasting Cabinet and Baghouse Guidelines Review			
Item	Recommended	Actual	Compliance
Air Changes (AG)	10-20	10.3	Y
A/C Ratio	< 8.0 : 1	1.9:1	Y
Bag Shaker >400 sq.ft.	PW	PW	Y
Closed Container	Yes	Yes	Y
Pressure Gauge	Yes	Yes	Y
Baffled Air Inlet Ports	Yes	Yes (2)	Y
Access Door > 200 ft ²	Yes	Yes	Y



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RULE EVALUATION

RULE 212(c)(1) *This section requires a public notice for all new and modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school.*

Immaculate Conception School (K-8) is within 1,000 feet of the facility therefore public notice will be required by this section.

RULE 212(c)(2) *This section requires a public notice for all new and modified facilities which have on-site emission increases exceeding any of the daily maximums specified in subdivision (g).*

There is no increase in emissions from the facility over the thresholds due to this equipment. The following table summarizes the emission limits and increases. Public notice is not required due to this section.

LB/DAY	CO	NOX	PM10	ROG	LEAD	SOX
Max Limit	220	40	30	30	3	60
Increases	0	0	2	0	0	0

RULE 212(c)(3) *This section requires a public notice for all new or modified permit units with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in MICR greater than $1E^{-6}$ per permit unit or greater than $10E^{-6}$ per facility.*

There will be no increase in TAC. Public notice will not be required per this section.

RULE 212(g) *This section requires a public notice for all new and modified sources that have equipment emission increases exceeding any of the daily maximums as specified by Rule 212 (g).*

There is no increase in emissions from the equipment over the thresholds. The following table summarizes the emission limits. Public notice is not required due to this section.

	<u>ROG</u>	<u>NO_x</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>CO</u>	<u>Pb</u>
Per Equipment	0	0	2	0	0	0
MAX MDC Limit (lb/dy)	30	40	30	60	220	3
Required Public Notice	No	No	No	No	No	No



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RULE 401

Visible Emissions

Visible emissions are not expected with proper maintenance and operation of this equipment. The system shows no visible emissions complaints at this location.

RULE 402

Nuisance

Operation of this equipment is not expected to create complaints or nuisance with proper maintenance and operation. The system shows no nuisance complaints at this location.

RULE 404

Particulate Matter – Concentration

Particulate discharge is below the limit in Table 404(a). Compliance with this rule is expected.

Allowed	Actual
0.195 grain /cuft	0.0128 grain/cuft

RULE 1155

Particulate Matter (PM) Control Devices

This is a Tier 1 baghouse which has an automatic shaker unit therefore complies with the rule.

REG XIII

Rule 1303(a), Best Available Control Technology (BACT)

There is no increase in emissions from the oven due to changing the recirculating fans, BACT is not triggered. PM₁₀ emissions from the abrasive blasting cabinet are vented to a dust collector. A dust collector is considered BACT for this equipment.

Rule 1303 (b)(1), Modeling

The calculated PM₁₀ emissions for the abrasive blasting system (0.099 lb/hr) are less than the screening limits in Table A-1, Appendix A, (0.41 lb/hr) therefore no further modeling analysis is required. There is no increase in emissions from the oven so modeling is not required.



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Rule 1304 (c)(1), Offsets Exemption

Since the facility emits less than 4 tons of PM₁₀ per year (Table A), offsets are not required. Applicant is well below this limit: PTE in NSR database is 4 lb/day. 2008 AER report shows 0.154 tpy particulate emissions.

RULE 1401

New Source Review of Toxic air Contaminants

There will be no increase in TAC from the oven modification, and no TAC emissions from the abrasive blasting operation. Compliance is expected.

REGULATION XXX

The proposed project is considered as a “de minimis significant permit revision” to the Title V permit renewal issued 7/28/2008. This is the second revision since the renewal. Rule 3000(b)(6) defines a “de minimis significant permit revision” as any Title V permit revision where the cumulative emission increases on non-RECLAIM pollutants or hazardous air pollutants (HAP) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO _x	40
PM ₁₀	30
SO _x	60
CO	220

Rule 3003(j) specifies that a proposed permit for the Title V permit renewal shall be submitted to EPA for review. To determine if a project qualifies for a “de minimis significant permit revision”, emission increases resulting from all permit revisions that are made after the submittal of proposed permit to EPA shall be accumulated and compared to the above threshold levels. This is the second permit revision to the Title V Permit Renewal. This revision includes the addition of an abrasive blasting cabinet vented to a dust collector. This revision also includes a minor permit revision to correct the number and HP of the recirculating fans for the oven under A/N 511090. The cumulative emission increases resulting from this proposed permit revision are summarized as follows:



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Revision		HAP	VOC	NOx	PM ₁₀	SOx	CO
2nd Permit Revision	Addition of an abrasive blasting cabinet (A/N 512075) and a dust collector (A/N 511879) & modification of an oven (A/N 511090)	0	0	0	2	0	0
1st Permit Revision	Change of conditions for four spray booths 485214 & 15, 485218 & 19 (minor)	0	0	0	0	0	0
	Add oven A/N 485212 (de minimis significant)	0	0	1	0	0	0
	Modify metal processing tank to add four tanks A/N 495585 (de minimis significant)	0	0	0	<0.50	0	0
Cumulative Total		0	0	1	2	0	0
Maximum Daily		30	30	40	30	60	220

RECOMMENDATION:

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j) in conjunction with the Rule 212 public notice. If EPA does not raise any objections within the review period and upon completion of the Rule 212 public notice period, a revised Title V permit will be issued to this facility.